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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,362	11/07/2000	David J. Luman	10003281-1	1647

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EXAMINER

NGUYEN, FRANCIS N

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 10/17/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/708,362

Applicant(s)

LUMAN ET AL.

Examiner

FRANCIS NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 6) ☐ Other:

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## DETAILED ACTION

### *Claim Objections*

1. Claims 1 and 9 are objected to because of the following informalities: incorrect word "user-engable" ( page 25, claim 1, line 12, also page 27, claim 9, line 2). Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberhard et al. (US Patent 6,331,867) in view of Yamaguchi et al ( US Patent 6,407,763).

As to claim 1, Eberhard et al. discloses every feature claimed of an electronic display ( see Abstract, figure 2 showing **reader device 30** comprising **housing 33** and **display area 34** providing display content, **memory DRAM array 70** , **FLASH array 68 to hold data**, column 5, lines 45-48, control area ( **gripping area 50**, column 4, lines 8-16) comprising one or more user-engageable structures ( **scroll- bottoms 38** of figure 2) accommodating one-handed use, column 4, lines 11-12, **user holding the aforementioned housing with one hand , one hand holding stylus 92 of figure 7)** except an electrophotographic assembly within the housing and a loop of material disposed proximate the electrophotographic assembly. Yamaguchi discloses an electrophotographic assembly within the housing and a loop of material disposed proximate the

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electrophotographic assembly ( **black and white particles electrically charged** , see Abstract, column 26, lines 18-65, **image repetitively displayed**, column 29, lines 24-26). **It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus taught by Ebergard et al., then replace the screen material of liquid crystal and corresponding backlight with the electrophotography assembly and loop of material taught by Yamaguchi et al., (since liquid crystal and loop material are equivalently driven via electric field) in order to obtain the apparatus Eberhard et al. modified by Yamaguchi et al. , because it would provide a high speed response , rewritable display useful in a variety of applications as suggested by Yamaguchi et al. (column 27, lines 10-12, lines 39-44, column 39, lines 44-50 ) , also power and cost saving ( no need for backlighting power supply).**

**As to claim 2**, see the same citation for claim 1. Note Eberhard et al. modified by Yamaguchi et al. discloses housing comprising a front ( **screen 74** of figure 2) and back face( inherently in housing of device 30 shown in figure 3) device and at least one sidewall ( as shown in figure 3), the control area being disposed on the sidewall ( **power button 36** of figure 3, **scrolling buttons 38** on the side as shown in figure 2 ).

**As to claim 3**, see the same citation for claim 1. Note Eberhard et al. modified by Yamaguchi et al. discloses dielectric material ( Yamaguchi et al. , column 22, lines 62-63 ).

**As to claim 4**, see the same citation for claim 1. Note Eberhard et al. modified by Yamaguchi et al. discloses a power source internally of housing ( Eberhard et al. , **NIMH battery 51** shown in figure 5 ).

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**As to claim 5**, see the same citation for claim 1. Note Eberhard et al. modified by Yamaguchi et al. discloses power source comprising one or more batteries (Eberhard et al. , **NIMH battery 51** shown in figure 5 ).

**As to claim 6**, see the same citation for claim 1. Note Eberhard et al. modified by Yamaguchi et al. discloses portable device ( Eberhard et al. , **handheld computing device 30**, column 3, lines 40-46).

**As to claim 12**, Eberhard et al. discloses every feature claimed of an electronic display device( see Abstract, figure 2 showing **reader device 30** comprising **housing 33** and **display area 34** providing display content, **memory DRAM array 70** , **FLASH array 68 to hold data**, column 5, lines 45-48, control area ( **gripping area 50**, column 4, lines 8-16) comprising one or more user-engageable structures ( scroll- bottons 38 of figure 2) accommodating one-handed use, column 4, lines 11-12, **user holding the aforementioned housing with one hand , one hand holding stylus 92 of figure 7)** except a print media configured to display with toner, user -viewable content for a user, a toner shuttling system configured to shuttle toner between different locations from which toner can be used and reused . Yamaguchi discloses a print media configured to display with toner (**black and white particles electrically charged** , see Abstract, image display medium 10, column 12, lines 26-37, **fine powder of titania is toner**, column 12, lines 48-65, column 26, lines 18-65, column 35, lines 51-53 ) , user -viewable content for a user ( **image forming apparatus 12**, column 12, lines 26-28), a toner shuttling system configured to shuttle toner between different locations from which toner can be used and reused ( **image display medium capable of repetitive use**, column 38, lines 24-26, **image display medium 10**

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transported by a transporting unit between electrode 11 and counter electrode 26, column 26, lines 11-18, ). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus taught by Ebergard et al., then replace the screen material of liquid crystal and corresponding backlight with the print media and toner shuttling system taught by Yamaguchi et al., (since liquid crystal and print medium are equivalently driven via electric field) in order to obtain the apparatus Eberhard et al. modified by Yamaguchi et al. , because it would provide a high speed response , rewritable display useful in a variety of applications as suggested by Yamaguchi et al. (column 27, lines 10-12, lines 39-44, column 39, lines 44-50 ) , also power and cost saving ( no need for backlighting power supply).

As to **claim 13**, see the same citation for claim 12. **Eberhard et al. modified by Yamaguchi et al. further discloses** housing comprising a front ( Eberhard et al. ,screen 74 of figure 2) and back face( inherently in housing of device 30 of Eberhard et al. shown in figure 3) device and at least one sidewall ( as shown in figure 3), the control area being disposed on the sidewall ( Eberhard et al. , **power button 36** of figure 3, **scrolling buttons 38** on the side as shown in figure 2 ).

As to **claim 14**, see the same citation for claim 12. **Eberhard et al. modified by Yamaguchi et al. further discloses** housing comprising a front ( Eberhard et al. ,screen 74 of figure 2) and back face( inherently in housing of device 30 of Eberhard et al. shown in figure 3) device and at least one sidewall ( as shown in figure 3), the control area being disposed on the sidewall ( Eberhard et al. , **power button 36** of figure 3, **scrolling buttons 38** on the side as shown in

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figure 2 ), at least one of the user engageable structure comprises a rocker-type switch ( Eberhard et al. **power ON/OFF button 36** of figure 3 ).

As to **claim 15**, see the same citation for claim 12. **Eberhard et al. modified by Yamaguchi et al. further discloses movement of black and white particles toward display substrate 14 and non-display substrate 16 in reaction to applied voltage( Yamaguchi et al., column 28, lines 57-67) ; this corresponds to the claimed exposure station positioned to expose loop of material so that toner can be applied and retained thereon.**

As to **claim 16**, see same citations for claim 1 because **method claim 16 corresponds to the apparatus claim 1.**

As to **claim 17**, see same citation for claim 16. Note **Eberhard et al. modified by Yamaguchi et al. further discloses forming of the image comprise applying non-fused toner to the loop of material ( movement of black particles and white particles due to applied voltage to display susbstrate and non display substrate, column 26, lines 36-60).**

As to **claim 18**, see same citation for claim 17. Note **Eberhard et al. modified by Yamaguchi et al. further discloses reclaiming toner that has been used to form image and reuse the reclaimed toner to form additional images ( Yamaguchi et al. , column 34, lines 10-20, black particles 18 are moved according to the image and the image is displayed on display substrate 14, image display medium capable of repetitive use, column 38, lines 22-26, column 39, lines 43-50).**

As to **claim 19**, see same citation for claim 16. Note **Eberhard et al. modified by Yamaguchi et al. further discloses loop of material configured to provide a black/white contrast when used in**

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connection with black toner ( Yamaguchi et al., **movement of black particles and white particles resulting in high contrast and high sharpness, column 34, lines 10-27, column 35, lines 1-3)**)

As to **claim 20**, see same citation for claim 16. Note Eberhard et al. modified by Yamaguchi et al. further discloses forming of images further comprises retaining toner on the loop of material using only electrostatic forces (**movement of black particles and white particles to display susbstrate and non display substrate, column 26, lines 36-60, column 34, lines 32-45)**)

4. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberhard et al. in view of Yamaguchi et al. and further in view of Sakaue ( US Patent 6,124,867).

As to **claim 7**, see the same citation for claim 1 since claim limitations of claims 1 and 7 are similar except display content renderable at at least 300 dpi. Sakaue discloses display content renderable at 600 dpi (column 11, lines 24-45, **picture data comparison section 204, picture development section 208**, shown in figure 1B, column 10, line 66 through column 11, line 15 ). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus Eberhard et al. modified by Yamaguchi et al., then couple the picture data comparison section , picture development section taught by Sakaue to the aforementioned memory DRAM 70 and FLASH array 68 taught by Eberhard et al., to obtain the apparatus Eberhard et al. modified by Yamaguchi et al. and Sakaue, because it would result not only in high speed processing for display, as taught by Sakaue ( column 8, lines 17-19 ) but also high resolution output.



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As to **claim 8**, see the same citation for claim 7. Note Eberhard et al. modified by Yamaguchi et al. and Sakaue discloses housing comprising a front ( Eberhard et al. ,**screen 74** of figure 2) and back face( inherently in housing of device 30 of Eberhard et al. shown in figure 3) device and at least one sidewall ( as shown in figure 3), the control area being disposed on the sidewall ( Eberhard et al. ,**power button 36** of figure 3, **scrolling buttons 38** on the side as shown in figure 2 ).

As to **claim 9**, see the same citations for claim 8. Note at least one of the user engageable structure comprises a rocker-type switch ( Eberhard et al. **power ON/OFF button 36** of figure 3 ).

As to **claim 10**, see the same citation for claim 7. Note Eberhard et al. modified by Yamaguchi et al. and Sakaue further discloses assembly configured to render content at 600 dpi ( Sakaue, column 11, lines 24-45, **picture data comparison section 204**, **picture development section 208**, shown in figure 1B, column 10, line 66 through column 11, line 15).

As to **claim 11**, see the same citation for claim 7. Note Eberhard et al. modified by Yamaguchi et al. and Sakaue further discloses assembly configured to render content at 600 dpi ( Sakaue, column 11, lines 24-45, **picture data comparison section 204**, **picture development section 208**, shown in figure 1B, column 10, line 66 through column 11, line 15). However, Eberhard et al. modified by Yamaguchi et al. and Sakaue fails to expressly teach device weighting no more than two pounds. Note Eberhard et al. does teach **handheld, portable reading device** ( column 3, lines 42-44), **stress reduction on user hands/wrists because of prolonged operation** ( column 4, lines 20-26) ; **these suggest that one skilled in the art would have the knowledge to select material for design proper weight of said device.**

***Conclusion***

5. The prior art of made of record is not relied upon, but pertinent to Applicant's disclosure:

US Patent	Tavernier et al.	6,174,047
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Reference Tavernier et al. is made of record as it discloses a method of electrographic printing.

The art of made of record is not relied upon, but pertinent to Applicant's Disclosure ( same assignee and same filing date with application):

US Patent	Johnson	6,396,525
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US Patent	Camis et al.	6,448,990
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Reference Johnson is made of record as it discloses an electronic display device using toner processing system .

Reference Camis et al. is made of record as it discloses an electronic display using toner processing system .

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **FRANCIS N NGUYEN** whose telephone number is **703 308-8858**. The examiner can normally be reached during hours 8:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached at 703 305-4579.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 ( for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor ( Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Technology Center 2600 Customer Service whose telephone number is  
(703) 306-0377.



FN  
October 14th, 2002

FRANCIS N NGUYEN  
Examiner  
Art Unit 2674